

WHAT IS CLAIMED IS:

1. A method for manufacturing a laminated stator core for an electric motor, said method comprising the steps of:

providing a plurality of generally planar laminas, each lamina having an axis substantially perpendicular to the lamina plane;

5 forming a plurality of notches in the lamina; and

forming a plurality of interlock tabs, the notches extending outward from the interlock tabs to an outside diameter of the laminas.

2. The method according to Claim 1 wherein the plurality of interlock tabs have an oblong shape.

10 3. The method according to Claim 2 wherein the interlock tabs have an inside edge, an outside edge, and a pair of substantially semi-circular edges.

4. The method according to Claim 1 wherein each lamina includes at least two interlock tabs.

15 5. The method according to Claim 1 wherein said method further comprising the steps of:

stacking each lamina on top of an adjacent lamina to form a stack of laminas; and

20 stacking a first lamina, a plurality of interior laminas, and a last lamina such that the interlock tabs of the first lamina and the interior laminas engage an adjacent lamina to prevent shifting therebetween.

6. The method according to Claim 5 wherein the first and the last lamina include an upper surface and a lower surface, the upper surface substantially parallel to the lower surface, the first lamina's upper surface and the last lamina's lower surface substantially parallel to each other and substantially flat.

25 7. A method for manufacturing a laminated stator core for an electric motor, said method comprising the steps of:

providing a plurality of generally planar laminas, each lamina having an axis substantially perpendicular to the lamina plane; and

forming a plurality of interlock tabs, wherein the interlock tabs extend to an outside diameter of the laminas.

5 8. An electric motor comprising:

a housing;

10 a stator comprising a stator core, said stator at least partially within said housing, said stator core comprising a plurality of generally planar laminas, each lamina having an axis, each said lamina comprising a plurality of notches and a plurality of interlock tabs, the notches extending outward from the interlock tabs to an outside diameter of said laminas; and

a rotor having a rotor core and disposed at least partially within said stator.

15 9. The electric motor according to Claim 8 wherein said rotor is disposed coaxially within said stator.

10 10. The electric motor according to Claim 8 wherein said interlock tabs have an oblong shape, an inside edge, an outside edge, and a pair of semi-circular edges.

20 11. The electric motor according to Claim 8 wherein said each said lamina includes at least two interlocking tabs.

25 12. The electric motor according to Claim 8 wherein each said lamina of said stator core stacked on top of an adjacent lamina to form a stack of laminas, said stack of lamina further comprising a first lamina, a plurality of interior laminas, and a last lamina, said plurality of interior laminas arranged in-between said first and said last lamina, said each lamina having at least a plurality of interlock tabs, said plurality of interlock tabs received by each adjacent lamina to enhance the engagement between said laminas.

13. The electric motor according to Claim 12 wherein said first lamina and said last lamina further comprising an upper surface and a lower surface, said upper surface substantially parallel to said lower surface, said first lamina's upper surface and said last lamina's lower surface substantially parallel to each other and substantially flat.

14. An electric motor comprising:

a housing;

a stator comprising a stator core, said stator at least partially within said housing, said stator core comprising a plurality of generally planar laminas, each lamina having an axis, each said lamina comprising a plurality of interlock tabs, the plurality of interlock tabs extending outward to an outside diameter of said laminas; and

a rotor having a rotor core and disposed at least partially within said stator.

15. A stator core comprising

a plurality of generally planar laminas, each said lamina having a plurality of notches with a first axis of symmetry and a plurality of interlock tabs with a second axis of symmetry, the notches extending from the interlock tabs to an outside diameter of said laminas.

16. The stator core according to Claim 15 wherein said first axis of symmetry and said second axis of symmetry of coincide.

17. The stator core according to Claim 15 wherein said first axis of symmetry and said second axis of symmetry do not coincide.

18. The stator core according to Claim 15 wherein said first axis of symmetry is positioned at an angle α with respect to said second axis of symmetry.

19. The stator core according to Claim 15 wherein said interlock tabs have oblong shape, an inside edge, an outside edge, and a pair of semi-circular edges.

20. The stator core according to Claim 15 wherein the interlock tabs includes a third axis of symmetry, said third axis of symmetry perpendicular to said first and said second axis of symmetry, said first axis of symmetry further located a pre-determined distance from said second axis of symmetry.

- 5 21. A stator core comprising a plurality of generally planar laminas, each said lamina having a plurality of interlock tabs with an axis of symmetry, the interlock tabs extending to an outside diameter of said laminas.